



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/687,486	10/13/2000	Raja P. Narayanan	11462RRUS02U	9380
7590 10/20/2004			EXAMINER	
BRACEWELL & PATTERSON, L.L.P.			PHAN, MAN U	
Intellectual Property Law			ART UNIT	
P. O. Box 969			PAPER NUMBER	
Austin, TX 78767			2665	

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/687,486	Applicant(s) NARAYANAN ET AL.	
	Examiner Man Phan	Art Unit 2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-13 and 16-24 is/are rejected.
- 7) ☒ Claim(s) 6, 7, 14, 15, 24 and 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment and Argument

1. This communication is in response to applicant's 06/28/2004 Amendment in the application of Narayanan et al. for a "Mobile IP extension rationalization (MIER)" filed 10/13/2000. This application claims benefit from Provisional Application 60/159,407 dated 10/14/1999. The amendment and argument has been entered and made of record. Claims 1-25 are pending in the application.

2. Applicant's amendment and argument to the rejected claims are insufficient to distinguish the claimed invention from the cited prior arts or overcome the rejection of said claims under 35 U.S.C.103 as discussed below. Applicant's argument with respect to the rejected claims have been fully considered, but they are not persuasive for at least the following reasons:

3. Applicant's argument with respect to the rejected claim 1 (Page 6, fifth paragraph) that the cited references do not teach or suggest the "mobile internet protocol extension that has a type field containing a type value identifying a collection of extensions having a common data type". However, Bergenwall et al. (US#6,567,664) is applied herein merely for the teaching of the extension to the registration request in IP network. Bergenwall discloses in Fig. 5 a message format exemplifying the registration request in IP network. IP extension generally referred to as a Session/devices Identifier (SDI) Extension, which allows mobile users access to an IP-based network (5, 6) from one or more mobile nodes (1) with a single network address identifier (NAI).

By accessing an IP-based network (5, 6) with a single NAI, the user may access communications and the like sent to the user's NAI from multiple devices. In operation, the SDI Extension is sent as an extension with the RRQ message and NAI Extension. Upon receipt of the RRQ message, with any extensions, the home agent (4), or other network component such as the foreign agent (3, 7), host (2), and the like, correlates the IP address, which is typically either contained in the RRQ message if the IP address is statically assigned or assigned by the home agent (4) if the IP address is dynamically assigned, to the NAI contained in the NAI Extension and to the session/device identifier contained in the SDI Extension. Once the NAI is associated to one or more sessions/devices, i.e., mobile nodes (1), and an IP address, messages and/or communications sent to the NAI may be routed to the mobile nodes (1) the user is currently using via the associated IP address (See also Figs. 1, 2; Col. 1, lines 44 plus and Col. 6, lines 30 plus). Preferably, the SDI is a unique identifier statically assigned to a particular device. Additionally, the format of the SDI field is preferably that defined for the "username" field in the IETF RFC 2486, entitled "The Network Access Identifier", by B. Aboda and M. Beadles, dated January 1999. Furthermore, the format of the extensions follows the short extension format defined by the IETF Internet Draft entitled "Mobile IP Extensions Rationalization (MIER)" ("MIER"), dated December 1999, available at <http://www.ietf.org/internet-drafts/draft-ietf-mobileip-pmier-05.txt> (last visited March 2001). Alternative formats, such as the long extension format disclosed in MIER above, the extension format specified by the IETF RFC 2002, entitled "IP Mobility Support," dated 10/1996, available at <http://www.ietf.org/rfc/rfc2002.txt?number=200-2> (last visited March 2001), and the like, may also be used to convey the necessary information.

Applicant further asserted that the reference does not teach or suggest “a sub-type field containing a unique number assigned to a member of the collection of extensions identified by the type value within the type field”(page 6, fifth paragraph). However, Feldman teaches an exemplary message format in IP extensions includes protocol message (object type field, sub-type field...)(See the Figure for extension format, and Col. 20, lines 4 plus). In the SDI extension, generally comprises a type field, a length field, a sub-type field and a SDI field. The sub-type field is usually a one-byte field that indicates that this extension is an SDI extension. Examiner maintains that the references cited and applied in the last office actions for the rejection of the claims are maintained in this office action.

Claim Rejections - 35 USC ' 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor

and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-5, 8-13, 16-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergenwall et al. (US#6,567,664) in view of Feldman et al. (US#6,055,561).

With respect to claims 1-5, 8 and 17-23, Bergenwall et al. (US#6,567,664) discloses a novel method and system for assigning an IP address to a mobile node during registration according to the essential features of the claims. Bergenwall provides in Figs. 1 & 2 block diagrams illustrated an IP network architecture supporting mobile connections, comprising a mobile communication device 1, a home agent 4 of the home network 5 of the mobile node 1, a foreign agent 3 which is a router on the foreign network. As a result of the mobile node's registration, the home agent 4, which is a router on the mobile node's home network 5, encapsulates data packets addressed to the mobile node's home network address in an IP tunnel directed to the care-of address provided by the mobile node. The foreign agent 3 receives the encapsulated IP packets, and forwards them to the mobile node 1. Furthermore, it should be noted that the mobile node 1 uses its individual home address as the source address of all IP data packets that it sends, even when on the foreign network (Col. 1, line 44 to Col. 2, lines 46). Bergenwall further teaches in Fig3 a known format of the mobile IP registration request sent from the mobile node 1 to the foreign agent 3 or home agent 4. Fig. 4 illustrated the mobile IP extensions format encoded in a Type-Length-Value format which includes the type field for indicating the particular type of extension, the length field for indicating the length in bytes of

the data field within the extension, and the data field for indicating the particular data associated with the extension. The Extension mechanism allows optional information to be carried by mobile IP control message or by Internet Control Message Protocol (ICMP) Router Discover Messages. Extensions allow variable amounts of information to be carried within each data packet. RFC 2002 defines two types of extensions. The first type of extension for Mobile IP can only appear in Mobile IP control messages, that is, to and from a UDP port. These extensions are Mobile-Home Authentication Extensions, Mobile-Foreign Authentication Extensions and Foreign-Home Authentication Extensions. Mobile-Home Authentication Extensions are utilized to authenticate registration requests. For example, when a mobile node includes a Mobile-Home Authentication Extension in the registration requests sent therefrom, the home agent is thus able to verify the integrity of the request. The second type of extensions can appear only in ICMP Router Discovery messages and are One-byte Padding Extensions, Mobility Agent Advertisement Extensions and Prefix-Length Extensions (Col. 3, lines 44 plus).

However, Bergenwall et al. does not explicitly disclose a sub-type field identifying a member of the collection of extensions identified by the type field. In the same field of endeavor, Feldman et al. (US#6,055,561) teaches the extensions format for use in a registration request/acknowledge messages includes sub-type of the object field (See the Figure for extension format, and Col. 20, lines 4 plus). In the SDI extension, generally comprises a type field, a length field, a sub-type field and a SDI field. The sub-type field is usually a one-byte field that indicates that this extension is an SDI extension.

With respect to claims 9-13, 16, they are method claims corresponding to the apparatus and system claims 1-5, 8 and 17-23 as discussed in paragraph 4 above. Therefore, claims 9-16 are analyzed and rejected as previously discussed with respect to claims 1-8 and 17-20. One skilled in the art would have recognized the need for effectively and efficiently in supporting mobile internet protocol using multiple separate tunneling, and would have applied Feldman's teaching of the extension format structures for use in a registration request/acknowledgement messages into Bergenwall's novel use of the extension attached to the registration request sent from the mobile node to the foreign agent. Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Feldman's mapping of routing traffic to switching networks into Bergenwall's registration for mobile nodes in wireless internet protocols with the motivation being to provide a method and system for the extensions structure format in mobile IP control message.

Allowable Subject Matter

7. Claims 6-7, 14-15 and 24-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is an examiner's statement of reasons for the indication of allowable subject matter: The prior art of record fails to disclose or suggest wherein the type field contains a type value identifying a group of authentication extensions and the data field contains a

Art Unit: 2665

security parameter index and an authenticator; wherein the type field contains a type value identifying a group of key extensions and the data field contains a first security parameter index, a second security parameter index, and security information required to create a security association, as specifically recited in the claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Khalil et al. (US#2003/0060199) discloses a method and apparatus for managing a plurality of mobile nodes in a network.

Haverinen et al. (US# 2002/0012433) discloses authentication in a packet data network..

Leung (US# 6,636,498) discloses a mobile IP router

Khalil et al. (US# 2003/0002468) discloses a virtual private network identification extension.

Magret et al. (US# 6,804,221) discloses a micromobility using multicast.

Borella et al. (US# 6,697,354) discloses a method and system for distributed network address translation for mobile network devices.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, ***THIS ACTION THIS ACTION IS MADE FINAL***. See MPEP ' 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2665

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Phan whose telephone number is (571) 272-3149. The examiner can normally be reached on Mon - Fri from 6:00 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

12. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: (703) 305-9051, (for formal communications intended for entry)

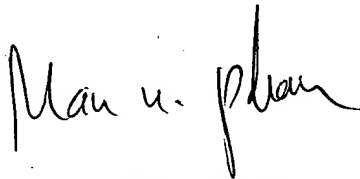
Art Unit: 2665

Or: (703) 305-3988 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Mphan

10/15/2004.

A handwritten signature in cursive script that reads "Man u. phan".

**MAN U. PHAN
PRIMARY EXAMINER**